



The Beacon

The newsletter of Chapter 54
Lake Elmo, Minn.

MARCH 2015

March 2015

NEXT MONTH'S PROGRAM WILL BE ON

MONDAY April 13, 2015

- **SOCIAL HOUR STARTING AT 7:00PM.**
- **Meeting AT 7:30 PM, CHAPTER HOUSE, ENTRANCE B, LAKE ELMO AIRPORT 21D.**



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Jack Shelton from North Star Flyers

Jack Shelton from North Star Flyers was the speaker for our last Chapter meeting. Attendees were eligible for Wings credit.

The topic was Engine Failures—we fear them more than we should. They are very rare, so with respect and training we can deal with engine failure. Difficult to count real engine failure because the accident is blamed on fuel starvation or some other issue. For example fuel problems



could be caused by carb ice, mechanical failure or unknown (about 25% of the time). The reasons for engine failure could be fuel exhaustion or fuel starvation or something mechanical in the fuel system -- Sometimes as simple as a fuel shut off valve in the wrong position.

Mechanical engine failures are caused by engine cylinders, exhaust, oil crankcase—any engine system can and does fail.

What to do is to plan on engine failure on takeoff—this is where many people die. Many are tempted to turn back. There are too many examples of people who turn back instead of landing ahead or with a slight turn if engine failure on take off. Continued on Page 8

Kitfox Factory Visit Dave & Diane Syverson, Kitfox 7 Tri gear

For those of us who have a homebuilt airplane constructed from a kit, a visit to the factory that makes the kit is high on the old bucket list. If there is an experience analogous to a pilgrimage to Mecca, this is it for a homebuilder! I mean, homebuilders are pathological technical folks and we really, really want to see how they put the parts together! Really!



While our plans to visit the Kitfox Factory were in conjunction with a personal trip to Crater lake Oregon, it is important to respect the owners and representatives of a business by extending the courtesy of contacting them before hand. “Just happened to be in the neighborhood and thought we'd stop by for a factory tour”.....BAD IDEA.....that is what aluminum siding salesmen do to people! By contacting the factory before hand, not only have you extended courtesy and respect to other human beings who share your passion for aviation; but, they have a chance to provide the best tour possible by finding a time which works for both parties.

John and Debra Mc Bean with their personal version of a Super Sport Kitfox (Series 7). John & Debra are the current owners of Kitfox Aircraft and have done an excellent job of establishing a firm with the staying power to support current and new owners of both the LSA and kit versions of the aircraft. The original Kitfox design dates back to the 1980's with seven major iterations of the aircraft and many variants within each design resulting in the latest version designated the Super Sport. Hint – make note of the wings in the ceiling of the hangar for a later comment in this article.



The factory has several operations being conducted in different buildings. The weldments are manufactured with various jigs to assure manufacturing efficiency and components of consistent dimensions and shape. Here is a tipoff to identify the current S7 John & Debra make from the earlier S7s. The rudder has been given a sharp rectangular corner at the top as opposed to the rounded off shape of the previous models – if you see a squared off rudder, it's the Super Sport.



{photo 4} Kitfoxes use a single control surface attached to the trailing edge of each wing to serve as both flaps and ailerons; hence, the, the term “Flaperons” The factory does the shaping, assembly and bonding of the flaperons used on a Kitfox with the machine in the photo. The flaperons have a center aluminum tubular spar with foam ribs which are bonded between the spar and skin. The Flaperon brake serves the

purpose of forming the skin and holding the whole works together till the bonding agent sets up. Note the completed flaperon laying in the cradle of the machine.



{Photo 5} A person buying a kit from the firm has the choice of getting either parts to make the wings or a wing quick build kit. The quick build version is an extra cost deal obviously; but, for those who can budget it, creates a great time saving while still keeping the kit a legal "51%" amateur built. Complete wings are also manufactured in this part of the facility for ready to fly LSA aircraft. Yes, the Kitfox is an FAA listed 51% kit.

{Photo 6} While we were touring the facility, an earlier model kitfox in rather bright colors showed up at the site. Turns out the person flying his much modified kitfox was Dan Denny, the originator of the kitfox design back in the 1980's. Dan is the person standing sideways in the photo. If you look at the details of this much modified aircraft, "Special Effects", which has served as a testbed for numerous engineering experiments over the years, you will notice some really obvious mods including the stall fences and flaperons which have been extended on both the inboard and outboard end compared to a standard Kitfox.



Remember those wings seen hanging in the roof of the hangar at the beginning of this article? Here is what 'Special Effects' looks like in operation as a biplane!

Kitfox Aircraft operating under John & Debra's leadership has accomplished much in the time they

have had the firm. For the nostalgic, an option has been engineered and tested for use of a true radial engine (Rotec) in the Super Sport with all the classic lines. The firm has also installed and tested the Rotax 912 electronic fuel injection engine, flying it from Idaho to Florida with incredible fuel efficiency for a 120 MPH aircraft...somewhere under 4 gallons per hour if I recall correctly. Kitfox continues to look into options and designs which stand to improve the aircraft. In the end, this is an aircraft which is intended to fly, just about anywhere. Kitfoxes have been flown to Alaska, up the Hudson River, to the Bahamas as well as just about anywhere there is at least a postage stamp sized strip to land and take off on between zero and 10,000+ feet AGL.



VALDEZ STOL (SHORT TAKEOFF/LANDING) AIRCRAFT COMING BACK TO OSHKOSH FOR EAA AIRVENTURE 2015

EAA AVIATION CENTER, OSHKOSH, Wisconsin — (March 11, 2015) — The specially modified short takeoff/landing (STOL) aircraft that were a hit at EAA AirVenture Oshkosh 2014 are returning for more fun this year, as they re-create one of the world's most unique aviation competitions.



The “Valdez STOL” airplanes will be part of the 63rd annual Experimental Aircraft Association (EAA) [fly-in convention](#) is July 20-26 at Wittman Regional Airport in Oshkosh. Those aircraft compete at the annual Valdez, Alaska, fly-in and air show in May each year, and demonstrated the unique capabilities of the airplanes and pilots at Oshkosh in 2014. This year, more than a dozen of these aircraft, including home-built and specially modified production airplanes, will be participating on July 20-24. They are based on aircraft that provide supplies to the rugged and far-flung outposts throughout Alaska. The demanding terrain in that state requires that aircraft take off and land on rough runways often less than 500 feet long.

The Valdez STOL activities will include flying during the afternoon air show and on selected evenings at AirVenture's grass airstrip for ultralights on the south end of the grounds. These flying activities are made possible with support from [CubCrafters](#), one of the

nation's leading backcountry aircraft manufacturers.

“We knew that last year's Valdez flying competitions and demonstrations would be popular, but we had little idea how much fun it would be for both participants and those who watched them,” said Rick Larsen, EAA's vice president of communities and member programs. “The pilots drew cheers during the afternoon air show demonstrations and thousands of aviation enthusiasts crowded around the ultralight runway for the informal post-air show evening festivities with the airplanes. This is true grassroots flying, perfect for Oshkosh.”

While the airplanes and pilots involved are commonly from Alaska, aviators and aircraft from throughout North America are expected to participate once again this year. Last year, it was common to see these aircraft take off and land in less than 50 feet.



EAA CHAPTER 54 TREASURER'S REPORT

BY TOM GIBBONS

EDITORS NOTE: AS DISCUSSED AT A RECENT BOARD OF DIRECTORS MEETING, THE TREASURER'S REPORT WILL NOW BE ON OUR WEBSITE AT WWW.EAA54.ORG/MEMBERSONLY



Young Eagles 2015

Chapter 54 would like to, first, thank Cynthia Campbell for her donations to assist a student with flight training. These gifts are in memory of her father. We've sent thank you letters to Cynthia but the intention is to have a camper send a note, too. We will be using these funds, pancake breakfast proceeds, as well as \$295.00 in Young Eagle credits to sponsor kids that will attend Air Academy this summer.

There are two kids signed up for camp so far. Gabi is looking forward to returning this summer, she's been accepted, and is all ready to go. Another 12 year old has sent in the application. Dan Bergstrom gave a flight to a Johnson High School student with a big interest



in flying but so far she has declined the offer to attend camp. She would have been the third camper.



If you know of someone between 12 and 18 years of age, that would benefit from The Air Academy, please give Dave Becker or me their name and contact information. There is room for one more but the sessions fill up fast. There is Information at the EAA Air Academy web page if you'd like to read about camp.

Young Eagles flights are the second Saturday of each month from May though October. Volunteers will get an email reminder one week before each event date. If you would please respond by indicating pilot or ground support, at that time, it's a great help in planning the day. Any willing volunteers should arrive around 8:00 to help set up, get the kids registered, and lined up for flights.

We've recently moved the start time for flights to 08:30 in the hope of taking advantage of cooler and calmer conditions. If you would like to be added to our group please let me know. It's low key group, we're done in a couple hours, and it's a fun thing.

2015 Young Eagles dates are:

- May 9
- June 13
- July 11
- August 8
- September 12
- October 10

Thank you for your interest in Young Eagles!

Linda Amble
EAA 54
Young Eagles Coordinator





FROM THE FLIGHT DECK (PRESIDENTS REPORT)

JIM PEARSALL

Greetings fans of Chapter 54!

I trust everyone survived pi Day 2015? This is a celebration day I appreciate for the contribution the Mathematical Sciences provides in creating and supporting the activity that brings us together. A couple of weeks ago I was able to spend a day listening and learning about the math and science of electric motors to power aircraft, attending a symposium at the Museum of Flight at Boeing in Seattle. A report on this is too much for this letter, look for more here in the newsletter or an upcoming presentation.

While attending the event at Museum of Flight I spent break times and a short period after the event to tour the exhibits. I was pleased to learn as I had limited time I would not pay the usual admission as my EAA Membership Card was honored for a free admission.

This was my second time to the Museum of Flight and I found the facility had expanded significantly since. I have provided Dale Seitzer some photos and will post a more complete set on our Facebook Page. The highlight for me was a tour of Serial #3 of a 787 and loved the "Airplane Factory" with a bunch of early Boeing Aircraft in construction process.

Looking ahead and deeper into the flying season already upon us I am looking forward to our Cookout Meeting in May, the Hangar Tour, the big show and other fly-ins. With luck, maybe this lovely early spring we seem to be enjoying predicts better event weather than last year. For our cook-out I am hoping the weather cooperates to have some aircraft on static display we have not done in a couple of years. For the big show a little less exciting atmosphere would be nice. On August 16, date for Aviation Day something other than IFR to allow the Commemorative Air Force to show with aircraft for a change.

We need the moisture, but I am putting my prayers to better weather in 2015. Just in case though, maybe May 11 should be an Open Hangar Day, I should drag the camper to Air Venture and maybe think about a couple of FAST events at the Pancake Breakfast?



Tailwinds Flying Club Partnership Welcomes New Members

Tailwinds Flying Partners is based at Lake Elmo airport. We are a non-profit corporation of 39 pilots who equally own three aircraft and one hangar (25E). Our goal and philosophy are to fly great airplanes safely and inexpensively. We currently have a Cirrus SR20, Archer II and Cherokee Six. Some of our members belong to EAA 54 and we love to fly Young Eagles. Please stop by and visit us anytime! To inquire about membership, please email or call Mark at 651-983-6206. www.tailwinds21d.org

Ice Runways Aren't as Crazy as They Sound



Plans are parked after flying in on frozen Lake Winnepesaukee Saturday, Feb. 28, 2015, in Alton, N.H.

After several brutal months, most of America is ready to see winter's backside. But for aviation enthusiasts in New England, the longer and colder the season, the better. As long as the waters of Alton Bay on Lake Winnepesaukee in New Hampshire stay frozen, pilots can use the only FAA-certified, plowed ice runway in the continental US.

Weather permitting, Alton Bay is used by about 50 seaplanes each month. But come the freeze, conventional aircraft come in droves. It's been that way since the 1960s, and the runway will see more than 100 planes from throughout New England on particularly busy days. (The average is closer to 10 or 15 a day.) There are restaurants and shops nearby, but landing on a runway made of ice may be the main

Bills would lower tax on auto fuel used in aircraft

By Dan Namowitz

Legislation introduced in both houses of the Minnesota Legislature would tax automobile fuel used in approved aircraft at the same rate as aviation fuel, reducing the tax burden on aircraft operators and increasing aviation's share of fuel-tax revenue.

AOPA supports [Senate File 269](#) and [House File 594](#) to tax auto gas used in aircraft at five cents per gallon instead of the current rate of 28.5 cents per gallon, the rate levied for auto fuel's traditional over-the-road use. "This legislation addresses a problem experienced by several hundred users of 'mogas' at Minnesota airports," said Bryan Budds, AOPA Great Lakes regional manager. "By passing this legislation, Minnesota would ensure that all revenue gained from the sale of aviation fuels is reinvested in the airport system that collected it, while also addressing the issue of automobile gas used in aircraft being taxed currently at a much higher rate."

The bills have the backing of the Minnesota Business Aviation Association and the Minnesota Council of Airports. AOPA will be present in the state capital, St. Paul, to urge passage of the tax rate change, Budds said.

From Page 1

Practice saying the procedure—if this, then that. Pick a spot to land before you take off.

Be ready to pitch to best glide, determine ahead of time how much altitude is needed to return back the airport—the altitude varies from plane to plane based on performance of the plane. Know the pilot operating handbook procedures—know the checklist—and practice.

Engine out on the take off roll—throttle idle and stop—do not try to keep going

Engine out on low climb -- maintain control, and land straight ahead

Engine out on high climb -- maintain control, aim to spot or key positions in the pattern and land

Engine out in Cruise -- maintain control, pitch and use checklist to land.

Most planes land at about 3 degrees of glide with engine running but 5 degrees if the engine stops. Suggests looking out 5 degrees from the horizon for a safe landing area.

He talked about selecting the best place for an emergency landing, near people, level, fields smooth like a harvested field such as soybeans. Tall corn could be a problem, plowed might be rough but high survival.

Land near people instead of far away, landing on roads is ok. Watch out for wires, telephone poles or fences. Trees can be ok—especially small trees. Recommend fly into trees---do not try to stall, pick pine trees because they bend at the lowest possible flying speeds

Recommended practicing at different loads and setting up the best speed and then memorizing the glide angle based on the angle of the horizon and the view out the windows. Understand the pilot operating procedures listed in the planes handbook.

For night landings, use roads or aim for dark places in winter and light places in summer and turn your landing light off if you do not like the view.

Use all your resources, GPS can show roads or lakes and cell phone maps can show roads. Key is to stay under control—fly the plane to the ground and be as slow as possible.



Chapter 54 Directory

President
Jim Pearsal
president@eaa54.org

Vice President
Paul Randall
vicepresident@eaa54.org

Treasurer
Tom Gibbons
treasurer@eaa54.org

Secretary/Class IV Director
Bettie Seitzer
secretary@eaa54.org

Education Director
Lief Erickson
education@eaa54.org

Housing Director
Dave Fiebiger
housing@eaa54.org

Membership Director
John Renwick
membership@eaa54.org

Young Eagles Director
Linda Amble
youngeagles@eaa54.org

Newsletter Editor/Director At-Large
Dale Seitzer
Newsletter@eaa54.org

Chapter Historian: Jeff Hove